# Experimental Cyanobacteria Health Bulletin: Mar 15, 2012

To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-888-232-8635. For questions about the report: contact Becky Lazensky, FL-DOH, at 352-955-1900. Images/data were obtained from Florida Water Management Districts, The National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report was received through a NOAA/NASA Agreement (Number: NNH08ZDA001N)

March 15, 2012

CI_Multi Image
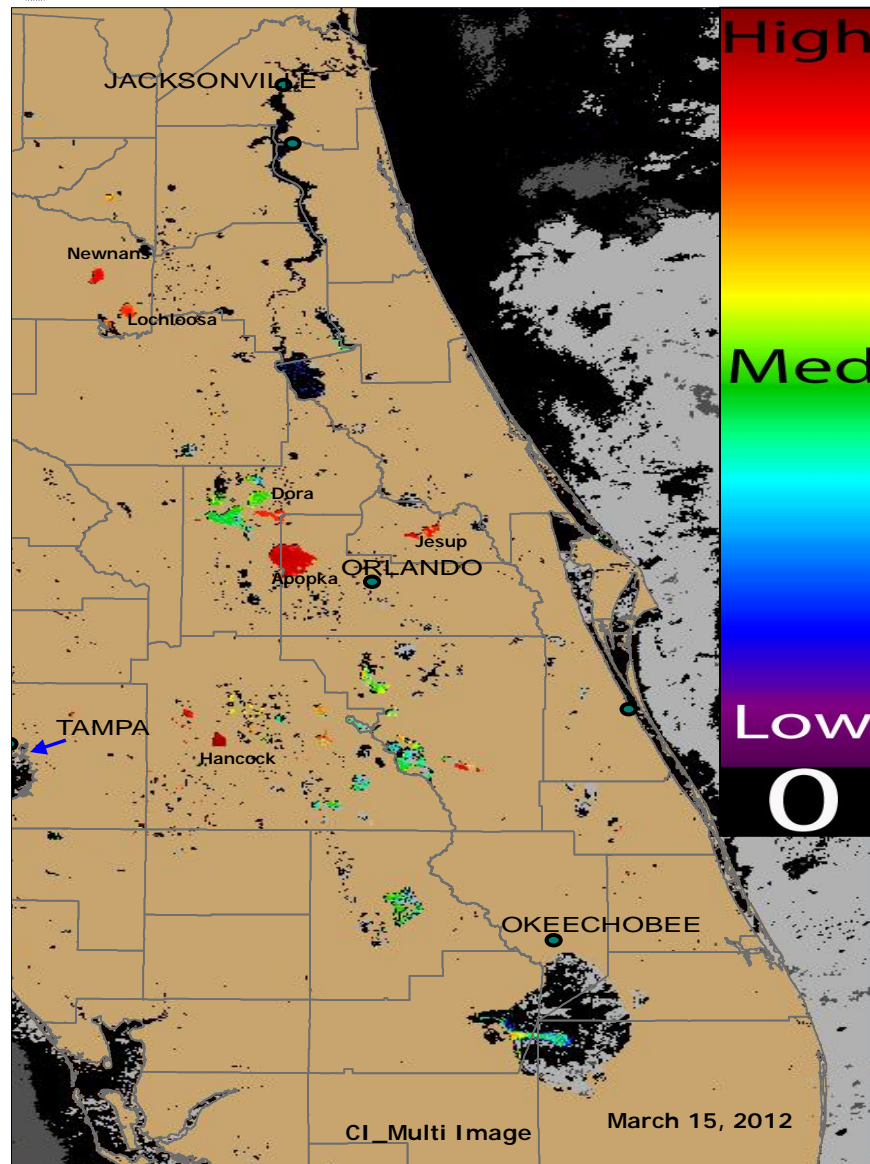
Cyanobacteria HABs Conditions Report: March 15

- Lakes Apopka and Dora (Orange and Lake Counties) displayed high estimated cyanobacteria concentrations

- Lakes Lochloosa and Newnans (Alachua County) displayed high estimated cyanobacteria concentrations

- Lakes Hancock and Jesup (Seminole and Polk Counties) displayed high estimated cyanobacteria concentrations
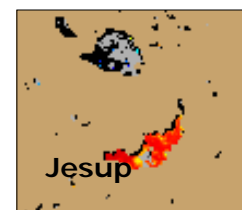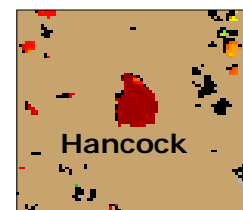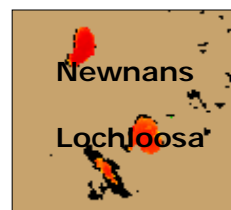
FWRI/FWC-*Pyrodinium bahamense* Bloom Monitoring in Tampa Bay

For years, *Pyrodinium bahamense* has bloomed in Tampa Bay, especially in the summer months. Florida strains were initially considered non-toxic, but in 2002, illnesses associated with eating puffer fish were traced to a toxic bloom in the Indian River Lagoon. During 2008, a bloom in Old Tampa Bay lead FWC/FWRI to conduct routine monitoring in the Tampa Bay area. Project scientists compare toxin and cell counts to environmental data such as salinity, temperature, and dissolved oxygen to examine the relationship between water quality and bloom toxicity.
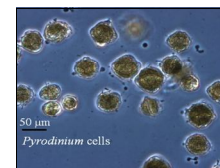
So far scientists have confirmed that blooms in Tampa Bay produce toxins, though at lower levels than in the Indian River Lagoon and the amount and type of nutrients can affect toxicity. With improved water quality and toxicity data, these results may help predict whether blooms may be toxic and the risk of seeing health effects associated with the blooms.


50 µm
Pyrodinium cells

Photo Credit: FWC/FWRI

Non Cyano HABs & Health Report: March 14, 2012 Update

FWRI/FWC Update: *Karenia brevis* was not detected in water samples collected alongshore Levy County, between Pinellas and Collier counties, offshore Sarasota County, in the Indian River Lagoon system (Brevard County), alongshore St. Johns County, offshore Martin County. One sample collected alongshore Okaloosa County contained background concentrations of *K. brevis*.
Health Complaints: None reported
To Report a Fish Kill: Call the FWRI/FWC Fish Kill Hotline at: 1-800-636-0511; Visit FWRI/FWC for updates:
http://myfwc.com/research/redtide/events/status/
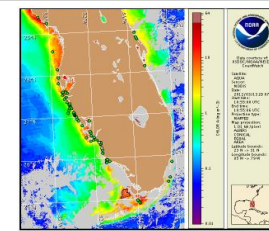
GOM HAB Bulletin Region: SW FL
Date: March 15, 2012
NOAA Ocean Service, Satellite and Information Service, NWS

MERIS Satellite Images display a cyanobacteria index generated with a Medium Resolution Imaging Spectrometer satellite provided by the European Space Agency & NOAA.

Very low likelihood of a bloom

May indicate clouds or missing data

Low estimated cyanobacteria concentrations

Medium estimated cyanobacteria concentrations

Probable bloom or higher est. cyano. concentrations

- The medium resolution imaging spectrometer (MERIS) is located on the Envisat satellite deployed by the European Space Agency.

- The cyanobacterial index algorithm is designed to identify high biomass algal blooms caused by cyanobacteria. However, the current algorithm tends to have false positives, so other blooms may be "flagged". NOAA is currently testing new algorithms that are more specific to cyanobacteria.

- Data can be used to estimate near surface cyanobacteria concentrations which are an indication that algal blooms may be present.

- The algorithms used to generate the satellite images can vary, resulting in some models having a higher likelihood of detecting surface blooms. The satellite identifies the biomass near the surface (in the upper few feet of water). As a result, it may underestimate the total biomass for blooms that are mixed or dispersed through the water column. Turbidity does not otherwise influence the algorithms.

- The satellite imagery does not display the species of algae present.

- While patches of red or warm colors may indicate a bloom, these data have not been verified in most cases using ground-truth methods. Data collected by the satellite is considered experimental.

- Only part of FL is in the satellite's coverage area.

- Several environmental factors may affect how results can be interpreted. For example, areas with abundant aquatic vegetation may present with a high cyanobacteria index on the color spectrum, resulting in a false positive bloom reading.

- Weather conditions can impact the duration and location of blooms and the satellite imagery shown in this report may no longer be relevant. Images represent the last image taken with a realization that blooms may have moved, dissipated or intensified.

- Cloud coverage can obscure imagery and create patches or gray areas on map and obscure bloom detection.

March 15 2012

Precipitation (in) 3/9/2012 – 3/15/2012

Temperature (F) 3/9/2012 – 3/15/2012
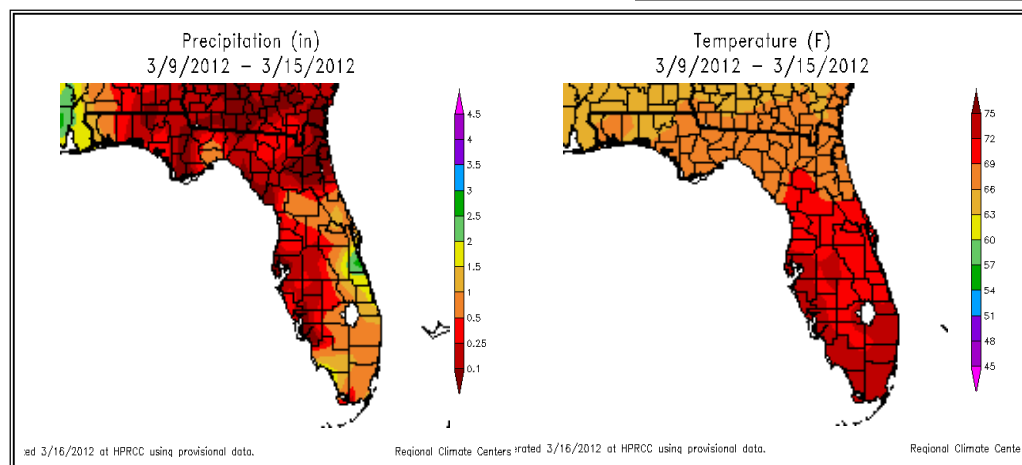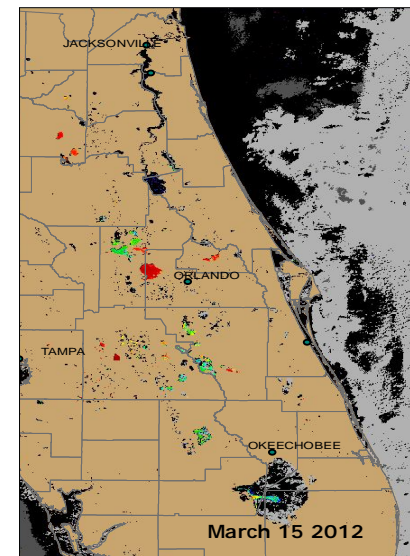
If your agency has field sampling data on the regions shown in red, these data can be used to help validate the MERIS imagery. Contact Becky Lazensky at: 352-955-1900 to participate in future FDOH validation efforts.

To review HABs satellite reports in the Gulf of Mexico and marine waters visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive at: http://tidesandcurrents.noaa.gov/hab/bulletins.html

For Individual Weather Station Data Visit:

http://www.sercc.com/climateinfo/historical historical_fl.html

Questions about the report or suggestions: You can contact Becky Lazensky, MPH
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